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EVALUATION OF THE HEALTH PLANNING RESTORATION PROJECT

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for U.S. Agency for International Development
N'Djamena, Chad
(IQC No. PDC-1406-I-00-4068-00)

March 31, 1987
N'Djamena, CHAD

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LIST OF ABBREVIATIONS

ADB	African Development Bank
AID	Agency for International Development
AID/W	Agency for International Development/Washington
BELACD/ SECADEV	Bureau d'Etudes et de Liaison Caritative de Developpement/ Secours catholique pour le developpement
BSPE	Bureau de Statistics, Plannification et Etudes
COP	Chief of Party
CSIS	Commission du Systeme d'Information Sanitaire
DOTS	Department of Training and Studies
EPI	Expanded Programme of Immunization
FED	Fonds Europeen de Developpement
GOC	Government of Chad
HIID	Harvard Institute for International Development
MOH	Ministry of Public Health
MOSA	Ministry of Social Affairs and the Advancement of Women
TA	Technical Assistance
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

1. INTRODUCTION

The Health Planning Restoration Project was financed by USAID for a period of two and a half years, ending on December 31, 1987. It is a sub-activity of the umbrella Chad Relief and Rehabilitation Project which was designed to help the Government of Chad recover from the war. The purpose of the project was to restore the health planning capability of the Ministry of Health (MOH) by supporting training and technical assistance to help with the development of a health information system and by providing limited material support.

A contract was signed with the Harvard Institute for International Development (HIID) to provide three long term technical assistants: a health planner/administrator, an epidemiologist/statistician, and a training coordinator. The technical assistants were assigned to work with the Directorate of Training and Statistics (DOTS) and subsequently, after the reorganization of the MOH, the Bureau of Statistics, Planning and Studies (BSPE). In addition, USAID support to the MOH includes renovation of offices for the BSPE, two vehicles and running costs, two computers, and basic office supplies. USAID also finances two secretaries and two drivers.

The project team began by collecting existing information on health needs and resources and studying the fragmented health information system. In June 1986, the MOH approved the development of a new, standardized routine reporting system; by the end of 1986, the new system was designed. The system includes five reporting forms:

- Annual Inventory of Personnel and Resources
- Basic Monthly Report of activities and health problems treated
- Monthly report for sentinel sites of activities and health problems treated
- Weekly infectious disease notice (telegram from sentinel sites)
- Consumption of medications

The basic monthly report form will be used in the majority of health units; the report for sentinel sites will be used in hospitals and higher level facilities that have superior diagnostic capabilities.

A national training seminar was held in February 1987 in which the monthly reporting forms were explained to key persons at national and regional levels and officials in charge of the sentinel sites. Regional seminars are planned over the next few months to begin introducing the system into basic health units. It is planned that the annual inventory and the weekly telegram will be designed and distributed by the end of the year. The drug consumption form has not yet been prepared.

2. MAJOR ACHIEVEMENTS

2.1. The Health Information System

The development of a standardized, national health information system is an extremely significant achievement. Within fourteen months after the commencement of the project, a new routine reporting system was designed and approved by the Ministry of Health for introduction throughout the country in both the private and public health sectors.

At the time the project was launched, there was no functioning system for collecting or transmitting health information. There was no coordination between the public and private sectors. Even within the Ministry of Health, individual services used their own reporting forms and there was no centralized collection of information The flow of information, at best, was very irregular.

The process of developing the information system was a systematic effort that included a study of the existing health system, an analysis of the findings, the identification of needs for health information, the identification of options for the new information system, selecting among the options, designing and introducing the new system. This process required an immense amount of effort on the part of the project team and Chadians who were involved at all levels of the health sector, including persons at the central level of the MOH and staff of the BSPE. In addition, major contributions of time and energy were provided by key people from the international community, including individuals representing BELACD/SECADEV, Cooperation Suisse, UNICEF, WHO and others.

A preliminary analysis carried out by the project team found that close to thirty forms existed for routine reporting. At least a third of the health units in the country were not submitting any reporting forms. Of those that submitted monthly forms, the average over one year was less than four monthly reports.

After completing the preliminary analysis, it became clear that the initial plan to modify the existing information system was not realistic and that it would be necessary to develop a new one. However, a considerable amount of additional research was essential to ensure that the new system would be appropriate to the reality of the Chadian situation. In particular, more background information was needed on the health structure, administrative and supervisory relationships, the categories and skills of personnel at regional and unit levels, and information needs throughout the system.

The BSPE carried out field trips to most of the prefectures. Using well planned questionnaires, the teams collected considerable information about the organization and delivery of health services. Informative reports of the findings were prepared. In addition, two summary reports were produced; one described the administrative structure of the health sector and another the existing health information system.

The subsequent process of designing a new information system was a collaborative effort of a national committee (the Commission du Systeme d'Information Sanitaire: CSIS), appointed by the Ministry of Health, and the BSPE as the secretariat. The BSPE produced working documents for consideration, modification, and approval by the subcommittee. Through a

very long and participatory effort, decisions were made and final agreement was reached on both the design of the new system and how the information would be transmitted from the field. In addition, it was agreed that the collection, analysis, and publication of information from all units, both public and private, would be centralized in the BSPE. This process, although it required a lot of time and energy, resulted in a consensus that had been negotiated among all the interests so everyone had a stake in the system.

The process itself was a major project achievement. Another significant accomplishment was the active participation and ultimate agreement among several administratively separate sections within the MOH, as well as the non-governmental sector. Another very important effect of this activity was that, in conjunction with the process of designing the system, participants had to identify specifically what information they required for planning and managing the services with which they worked. For most decision makers, this was the first time they had ever analyzed their information needs and how they would use data generated from an information system.

Although it is premature to evaluate the design of the system, the project did achieve a consensus on the development of forms that were simpler and more basic than most of those that existed previously. It is hoped that the new system will produce relatively accurate statistics; the information required from the health units is limited to that which it was believed could be reported with an acceptable level of reliability, given the training of the health workers and the diagnostic facilities in the field. It is clear that the system is more efficiently designed than anything that was in existence before and the routine reports will require much less time on the part of health providers and unit managers.

The development of the system was completed in November 1986, the forms were finished in December. A series of three national seminars took place in February 1987, introducing the system to medical officials from all of the regions and to heads of sentinenal sites ("postes sentinelles") throughout the country. Regional seminars to train persons in the prefectures and heads of additional health units will take place between April and July. Thus implementation of the new health information system has just begun. The very first reports from a few select units were submitted in March 1987.

2.2. Inventories

The project has produced numerous reports collating and classifying existing information on the health sector in Chad which has made a major contribution to providing basic information that is essential to plan and manage the health sector. Previously, there was a dearth of information on the numbers, distribution, and activities of facilities and personnel, especially in the public sector. Although some statistics on resources and health problems had been submitted by those units that had periodically sent in reports, the data had not been analyzed. In the non-governmental sector, in general each agency had information relating to services under its administration, however, the information was not aggregated.

Initially the project team collected and reviewed all available documents, interviewed individuals from the MOH and non-governmental services, and produced three preliminary reports; a report on health facilities, an analysis of the major health problems of Chad, and a manpower study. Information from the health facilities study was entered into the computer. The information was updated by verifying and obtaining additional information during the course of the field visits and subsequently when field personnel attended the national seminar. The study of health problems was carried out by analyzing all of the reports that had been submitted during 1985. It was a complex effort because there was no consistency in the classification of diseases; each of the services collecting information had established its own definitions.

The manpower study was completed in March 1986. The study attempted to compile a complete roster of Chadian and expatriate health personnel in the country and to define the categories of personnel. The study also identified the cadres currently being trained in the national school of public health. In addition, the project collected and filed information from all professional personnel in the central offices of the MOH relating to their education, experience, present job, and their priorities and preferences for training.

The project also produced a catalog of Francophone courses in public health available in training institutions in the African region.

2.3. Renovation

A major renovation of a section of the main MOH building was financed by the project to provide adequate office space for the BSPE. Several existing offices in the building were completely refurbished and enlarged and two new offices were added. In addition, the administration building of the MOH was upgraded, including repairs, painting and rewiring. Some of these offices were used to house the BSPE temporarily while their permanent offices were being readied.

2.4. Technical Assistance

It is too soon to assess the institutionalization of project activities. Nonetheless, it is clear that the technical assistants have accomplished a great deal since the beginning of the project. The team got down to work very quickly and immediately began studying the existing situation in the health sector. In the first few months of the project, largely through the efforts of the technical assistants, reports on health facilities and health problems, and an analysis of health information needs were produced by the Office of Statistics and Planning. The team was also primarily responsible for a number of subsequent reports, including the health manpower study, two major training plans, and the inventory of training resources in Africa. The team produced two major papers for international conferences describing the development of the health information system.

The technical assistants have established a good collaborative relationship with their colleagues in the BSPE. They have provided critical support to the BSPE in its role as secretariat to the CSIS and in carrying out the mandate of the BSPE to develop the new health information system. The TAs played a major role in preparing working papers for the CSIS, in designing both recording and reporting forms for

the system, and in preparing the users manual. They helped the BSPE to establish administrative procedures, including a filing system for routine office activities, and for organizing the health information system reports as they are received from the field. They also set up a small library, although it hasn't been used very much.

The technical assistants have been an important resource tc the MOH; their advice has been solicited regularly by key decision makers in the MOH and by other donors. They participate in all general meetings of the MOH and are frequently involved in activities outside of their immediate responsibilities within the BSPE. For example, the team provided assistance to the national school of public health in designing a new public health curriculum, in the revision of nursing curricula, and in developing a module on the health information system. They have been consulted on the design and implementation of surveys and participated in a computer users group in Chad.

3. ISSUES: CONSTRAINTS AND FACILITATING FACTORS

3.1. The Setting

Despite the extremely difficult conditions in which they work, there is an impressive spirit among Chadians and a strong desire to contribute to rebuilding the nation. Nonetheless, the serious economic and political problems from which the country is suffering, severely inhibit all development activities. There is a lack of all resources: government employees, whose salaries are meager compared to the cost of living, are being paid 60% salaries at present and they do not receive allotted per diems when they travel outside of their home base; government offices do not have basic equipment, supplies or transport. There are not enough people adequately trained to staff the ministries. Donor assistance is critical to maintaining essential government services.

After many years of civil war, the Chadian Government is in the process of unifying the country. The unification effort lends a sympathetic environment to the development of a standardized health information system. However, the vast size of the country and the difficulties of road and telecommunications pose serious impediments. In addition to the economic implications of the war against Libya, it also periodically inhibits communications with parts of the country in areas outside of the war zone.

The project has already played a role in increasing communication between the MOH and the field. The reconnaissance visits to the prefectures were the first time that staff of the statistics unit had been in the field, and the first time that most health workers in the periphery had ever been visited by someone from the Ministry. The national seminar was the first time that many of the key people from the prefectures had ever met each other or been to an important meeting in the MOH.

3.2. The Ministry of Health

There is a multiplicity of health care providers in Chad that have always managed their services separately. In addition to the MOH, the Ministry of Social Affairs, the Military, and non-governmental groups, including religious missions and commercial enterprises, also provide

health services. Under the aegis of the project, several of the larger religious mission groups have collaborated in the development of the information system and are participating in the implementation. These represent the largest providers outside of the MOH and their participation means that the new information system incorporates the vast majority of health services in Chad. The MOSA, which provides maternal and child health services through MOSA centers, is not yet participating although it certainly should be a part of the system. The Military has made a very preliminary approach to the BSPE which has not, to date, had enough time available to respond to the inquiry. Again, the Military should be incorporated, if it can be negotiated

The complex organization of the MOH prior to the reorganization was certainly a constraint; some, although not all of the problems have been resolved. Administrative responsibilities were divided at both regional and central levels; this implied several separate channels within the Ministry for the flow of information. With the reorganization, the role of the chief medical officers in the prefectures was strengthened. These medical officers were designated the conduit at regional level for the routine reports which will enhance their managerial role.

Under the reorganization, the BSPE was moved out of one of the divisions of the Ministry and placed under the direct control of the Director General. This puts the unit in a more strategic position for providing both information and planning advice to the Ministry. All reports will be submitted directly from the prefectures to the BSPE for analysis. This centralization is clearly efficient and will strengthen the effectiveness of the health information system. However, some of the special services, especially the national vaccination program, anticipate that it will delay their obtaining critical information for managing the program. This issue will have to be resolved between the BSPE and the EPI program, and others as the need arises.

A major constraint in institutionalizing project activities has been the turnover of staff in the BSPE and the fact that the unit has never had its full complement of personnel. Of the six persons who at one time or another were with the BSPE during the first project year, only two remain. One member of the present staff has been in the unit since the beginning, one joined in the ninth month of the project, two at the beginning of the second year, one a few months later, and the director of the office was appointed in February 1987. Such turnover is not unusual in Chadian ministries. The BSPE is still missing a minimum of two persons, a senior statistician, a deputy planner, and an economist (although perhaps the latter two positions could be combined).

These personnel problems have affected project implementation. The shortage of staff slowed down the work of the BSPE. For several months prior to the naming of the new director, the project COP was de facto director of the office, but without authority. Training of BSPE staff is behind schedule; more collaborative work with the technical assistance team and on the job training is needed, as well as additional technical training, especially in computer skills.

All of the current staff of the BSPE appear to be enthusiastic about being assigned to the BSPE, they expressed an interest in the work and believe it is important. They seem to be very motivated and serious. However, there are a number of sources of frustration. Currently, like

most Chadian civil servants they receive only 60% of their designated salaries. They would very much like to have some transport provided, especially when they have to return for meetings outside of regular working hours, and the option of a credit to buy a small motorbike. These are perquisites that, apparently, some other donor funded projects provide. They all fear for the future. They are concerned that the project will end before they have received sufficient training to continue independently. They are wary about the maintenance of the computers and the provision of basic essential supplies to keep the information system going. They are also afraid that the two vehicles donated to the project by USAID will be co-opted by other offices in the Ministry.

3.3. The Project Design

The health planning project was designed soon after USAID returned to Chad. USAID was primarily focussing assistance on relief and rehabilitation activities. Some of the design issues relate to the fact that the project was planned at this time, others are simply hindsight, and some of the issues could be considered more substantive.

The health planning project was designed as a part of the umbrella Relief and Rehabilitation Project which was planned to provide emergency assistance to Chad. Therefore it had to fit within the time frame and budgetary limitations of the relief project. While these limitations imposed serious constraints in terms of institutionalizing project activities, they also had the positive effect of putting a great deal of pressure on the project team and on the MOH. The intensity of activity and the level of accomplishment in a short time are impressive. Nonetheless, there is an issue about the appropriateness of the design in terms of the life of project and resources allocated.

The project period of two years and a half is too short to ensure the sustainability of project activities. In the first place, given the fact that the project has developed and is introducing a completely new health information system, it will require additional time and resources to implement fully the new system. Secondly, because of the short life of project term, no long term training was included. Therefore, the BSPE has had to rely on recruiting individuals trained under other auspices which, given the shortage of trained manpower in Chad, has been a constraint.

The project was designed with the purpose of developing a health planning capability within the MOH. It was planned that the technical assistants would advise the Ministry on the development of health policy guidelines, assessing health care needs and establishing priorities. The project was to support the development of a health information system, including: 1) morbidity/mortality surveillance based upon periodic surveys of representative rural areas, and 2) a standardized morbidity/mortality reporting form to be used by all medical facilities in the country, both government and private.

Before beginning to plan the health information system, it was necessary to learn about the existing situation The project team soon found out that there was virtually no information on the health sector in Chad; the MOH did not even have basic data on resources. Therefore, although it was not anticipated in the project design, the first major

task was to collect basic data that would be necessary for any planning or health information system development. It should be noted that AID/W, in reviewing the project design, queried whether it would not be appropriate for the project to collect information on human, physical and financial resources.

It soon became apparent that the development of a health information system would be a much greater task than anticipated; the project received support from the MOH to design a completely new routine data collection system. Thus the magnitude of the effort was significantly greater than implied in the project design and required the full attention of the entire project team. It also became evident almost immediately that the real need was for a management information system, not simply an epidemiological information system as envisioned in the design. Information about the distribution of resources and the activities of existing services was, if anything, more critical to the MOH for planning and managing the system than the distribution of illness and mortality rates in the population. The system is designed as a management tool, not only for the MOH at central level but for managers and supervisors at all levels of the system, including officers in charge of service delivery units.

The design was overly optimistic about the potential contribution the project could make toward national planning within the time frame of the project. One of the major project activities was to have been to assist with the design, implementation, monitoring and evaluation of health policy guidelines. Clearly, more information is needed before a major sector planning activity can begin. The project has already developed a preliminary data base on existing resources. As the health information system begins to function, this information will be updated and preliminary data on services and on morbidity will become available.

Although the morbidity/mortality studies were a prominent component of the project design, it was unrealistic to anticipate that they could have been carried out within the time frame or budget of the project. Moreover, they would have diverted critical resources away from the much more valuable effort to develop a routine reporting system.

The surveys would have been extremely expensive, especially given that there is no demographic data base nor are there maps to develop the sampling frame. In order to obtain area specific information, the sample would have had to have been enormous. Furthermore, the surveys would not have provided information that is essential for planning. Enough information was already available to know which basic maternal and child health services were needed. Neither the magnitude of infant mortality, nor the rates of prevalence of major diseases are critical. For planning and managing basic health services, for example, a vaccination program, the size of the target population is more important than the distribution of illness. Finally, it is unlikely that the capacity to carry out these surveys could be institutionalized, either from a technical or a financial perspective.

A routine data collection system is permanent; it can be institutionalized. The routine system is much more useful for planning and managing the health services, even for managing the drug distribution system, or for planning training and service needs. At this stage in Chad, the routine system will provide better epidemiological information

than surveys, even though the sample is a self-selected one. Once the system is fully implemented, periodic morbidity surveys can be carried out at selected units to verify diagnoses. This is relatively cheap, would be a good teaching tool, and would enhance the usefulness of the routine reporting system.

The plans for technical assistance did not fully meet the needs of the project. In the first place, the terms of reference for the training advisor did not fit within the scope of work of the health information system activity. In the second place, the qualifications specified for the training advisor were not appropriate. Nonetheless, although the most of the work done by the training advisor was not within the terms of reference for the training position, and she was not able to utilize her technical skills, she has been fully occupied with critical project activities since the beginning.

There was no need for a training advisor during the first year of the project. There were no training activities (with the exception of on the job training) until the specialized computer training in July; the first general training was in February 1987. Preparation of the inventory of Francophone courses in public health could have been done more efficiently by the home office. The health information system training could have been organized by a short term training consultant, in collaboration with the project team.

According to the project design, the training advisor was supposed to develop training related to essential drugs, and treatment and diagnostic algorithms. Even if this type of training fitted in with the other activities of the project, it would be impossible to standardize algorithms for the entire country and it would not be very useful in the present Chadian context in which there is almost no supervision of health care providers.

There was no need for a nurse educator given the project design. If surveys had been done, the project would have needed the expertise of a survey/ statistician/ computer advisor. The health information system training could have been planned by a training specialist.

For the third full time team member, instead of the training advisor it might have been a good idea to have had an administrator, hired locally. This person could have taken over most of the administrative tasks of the technical assistance team. He or she would have been responsible for managing the office, setting up filing systems, organizing the production of reports, planning the logistics for the field trips, etc. In that case, additional specialized short term technical assistance certainly would have been necessary, especially for training.

Only ten weeks of short term consulting were budgeted. This may not be sufficient to cover all the software development and computer training needs, as well as a recurrent cost analysis, wisely recommended by the technical assistance team.

3.4. Design and Implementation of the Health Information System

There were a number of constraints that caused delays at various stages of the development of the information system. In the first place, it took a certain amount of time to determine the needs, articulate them to the MOH, and gain concurrence of the MOH to proceed with the development of a new, national, standardized routine reporting system. This complete restructuring meant abandoning all existing systems and some relinquishing and transfer of control. Thus the amount of negotiation required to achieve a consensus also took longer than anticipated.

There were several interruptions that diverted the efforts of some of the key individuals involved in planning the system. In particular, the national vaccination campaign was a major focus of the MOH for nearly two months; thus critical meetings were postponed. The training in oral rehydration therapy for some of the prefectural personnel delayed scheduling of training for the information system.

The national seminar took place in February 1987; it is planned that the first round of regional seminars will take place between April and July. It is anticipated that the system will have been introduced into more than one-third of all the health units before the rainy season begins and travel becomes impossible. This timing presents a constraint; with the rainy season coming soon after many of the reporting units will have sent in their first submissions, it may be some time before they will receive the first feedback. Another drawback is a general lack of reinforcement of the prefectural medical officers who are a key pivot point in the system. There is at least one donor project planned that will help to strengthen the role of these officials; however, there will be a gap between the introduction of the information system and the start-up of this effort.

Several significant snags are anticipated once the system has been introduced. A major potential weak point is transmission of the reports and feedback between the health units and the prefectures and, to a lesser extent, between the prefectures and the BSPE. A second potential weak link is the personnel responsible for recording and reporting in the health units; given their training, experience, and the poor conditions under which they work, the system may be too complex for them, and/or they may not be motivated sufficiently to participate conscientiously.

3.5. Training

Although the BSPE staff have been adept at learning how to use the computers, they have faced a number of obstacles. In the first place they had little or no background in computers; there are not many computers in Chad and the community of knowledgeable users is small. The computers arrived before the BSPE moved into its new offices and so the initial training took place in the USAID building, limiting to some extent their freedom of access. This training, and subsequent training in December 1986, was very brief and several of the staff were not present for the first course. Initially, there were no software manuals in French; they still do not have all the manuals they need. More computer training is planned and attempts are being made to obtain additional French manuals.

One of the problems of arranging any kind of short term training for the BSPE staff relating to planning and managing the health information system, is the lack of relevant courses offered in Africa. Some funds were budgeted for training in the region and the BSPE staff is eager to take advantage of opportunities for third country training. However, because of the limited availability of appropriate courses, some of these funds are used to organize courses in Chad. To date, funds for external training have been used to finance a trip to Niger to study the health planning project, a visit to OCEAC in Cameroon, short term training courses in Bamako and in Brussels.

The project's major training effort, to date, has been the national seminar in which the new information system was introduced to key people at national and prefectural levels. Participants report that the seminar was well organized with plenty of opportunity for practical exercises to reinforce the theoretical presentations. The results of the small post tests taken by participants indicate a fairly good grasp of the material. This will be reinforced when many of these individuals participate as facilitators in the upcoming regional seminars. The one deficiency in the training program is the lack of clearly defined, precise learning objectives for each module. These will have to be developed if the capability for training is to be institutionalized in the BSPE and at regional level.

3.6. Renovation

The BSPE did not move into permanent renovated offices until one year after the project team arrived in Chad. There were a number of reasons for the delay. Because of USAID's initial delay in procuring the technical services, the space which had originally been designated by the MOH for the BSPE was no longer available. In subsequent negotiations between USAID and the MOH, the MOH requested USAID to construct a new building which was impossible given the funding limitations. An agreement about the allocation of space was reached around the time of the arrival of the HIID team in October 1985.

As there was no architectural design capability within the MOH, they had to rely on USAID to develop the specifications. Although this work began immediately, USAID did not have a full time engineer on staff until late November. Once the specifications were ready, it took some time to find a contractor. A contract was signed in February 1986 and the work was supposed to be completed within 90 days. However, this schedule was not met largely because there were several incremental add-ons to the contract; some because of unanticipated problems with the condition of the buildings, others in response to special requests from the MOH.

The delays in readying office space for the BSPE did inhibit project operations. For the first seven months of the project, the BSPE was housed in the office block which was to be renovated. The project was moved into temporary headquarters while the renovation was being done. Until the permanent renovated offices were ready, the working conditions were difficult, the staff was crowded and they were unable to introduce efficient office procedures.

3.7. Administration

Some relatively small administrative problems between the HIID team and USAID have plagued the project almost since the beginning. While they have not directly affected the work of the BSPE, they have been a source of frustration on both sides. The problems can be attributed partly to unavoidable obstacles related to the situation in Chad, complex bureaucratic procedures, problems of interpersonal communication, perceived lack of responsiveness, and perhaps some oversensitivity.

According to the contractual agreement between HIID and AID, housing, logistical support and expendable supplies are provided by AID. AID responsibility for these administratative functions relieved HIID of a major burden that otherwise would have consumed a fair amount of time and effort. Nonetheless, there were some snags. Housing was to have been completely ready for the technical assistants when they arrived. In the event, one of the houses was still under construction when the third team member arrived and required continual attention for several months after it was finished.

Another problem occurred with the provision of office supplies which was not organized properly from the beginning. Initially, USAID was furnishing supplies to the project on an ad hoc basis and the accounting and controls were rather lax. When USAID began to monitor the situation more closely some misunderstanding arose. USAID should have established at the outset of the project, a more regularized system. This would have been more efficient for the project team and for USAID.

4. THE FUTURE

4.1. Anticipated Achievements Prior to December 31, 1987

It is anticipated that, by the end of the present Life of Project, December 31, 1987, a national routine reporting system will have been designed and implementation of the system will be well underway. All of the forms will have been prepared, except perhaps the medications consumption form. Transmission routes will have been established and functioning. Preliminary mapping of the catchment areas of most of the health units will be completed.

The system will cover all of the regions of the country in which the MOH administers services. It will have been introduced into more than one-third of existing health units. Computerized data bases will have been established, reporting formats designed, and programmed. Data from participating health units will have been entered and the system will be generating reports based on those data.

By the end of 1987, all of the existing staff of the BSPE will have been with the project for almost a year or more and have had on the job training in all the activities of the BSPE. Several will have had specialized computer training. Training in the operations of the reporting system will have been given to key central and regional level staff of the MOH and participating non-governmental agencies, as well as to supervisors of more than one-third of the health units. A module will have been developed for introducing the health information system into pre-service training at the national school of public health.

In addition to the on-going activities of the project team, several special activities requiring outside technical assistance are planned. Consultants from the U.S. Bureau of the Census will assist in programming the data analysis. Additional computer training will be organized, either in Zaire, if it can be arranged, or in Chad. The project is also hoping to finance a study of the recurrent cost implications of the new health information system by a consultant.

4.2. Institutionalizing the Health Information System

By the end of the year, the Health Planning Restoration Project will have made a very significant start in establishing a well conceived management information system in the health sector. A highly competent and dedicated technical assistance team, in collaboration with supportive and enthusiastic staff of the MOH and participating non-governmental organizations, has accomplished a great deal in a very short time. However, only the first stage will have been reached; the system will be designed and preliminary implementation begun. Institutionalization will require more time and additional technical support. A number of tasks remain to be done before the system will be fully implemented and sustainable.

(1) Expansion of the system

The system still has to be extended into health units not covered by the end of 1987, including units administered by the Ministry of Social Affairs and perhaps the Military.

If the drug consumption form is not ready, it will have to be designed and introduced, requiring training of supervisors and providers, and developing the data base and analytic framework for the BSPE.

(2) Reinforcement of the reporting system

Continual follow-up will be required to reinforce the reporting system. Accurate and regular recording and reporting at the health unit level are the critical elements of the system. As reports come in, the BSPE will have to review them carefully to identify weaknesses. As soon as a problem is identified in any of the reports, a message should go back directly to the prefectural medical officer and the unit, attempting to explain how to improve the reporting. Ultimately, once the medical officers are sufficiently trained, they should be able to identify problems themselves. To the extent possible, problem units should be followed up individually, either by a visit from the regional officer, or by setting up regional retraining sessions.

After a certain period of analyzing the problems health providers are having with the system, the BSPE will have to study ways in which the present training can be improved and plan retraining modules. Although initially the BSPE will have to coordinate most of the training activities, gradually they should train trainers at regional level. Once the system is functioning smoothly, the regional level trainers/ supervisors should be able to carry on independently with reinforcement from the BSPE, including a national annual meeting bringing together people from all the regions and occasional visits.

(3) Evaluation and modification of the reporting system

The system will have to have been functioning for at least a year before a major evaluation can begin. As the very first reports were received in March 1987, the evaluation process should not begin before April 1988. The evaluation should include a careful study of both the format and the substance of the forms to determine the facility with which they are being used and the validity of the definitions. Appropriate modifications should be designed, pre-tested and introduced. Even if the changes are minor, undoubtedly there will be some, necessitating reprinting of the forms. It will also require parallel readjustments in the data base.

In conjunction with the evaluation and modification of the reporting system, the supporting functions should be studied, particularly relevant training and regional supervision of the health units. The transmission and feedback mechanisms should also be reviewed, and modified as necessary, to ensure that the system is organized to facilitate its optimal utilization.

(4) Data management

A lot of work will have to be done to ensure that the management of data from the system meets the needs of the MOH. As more and more data are generated by the system, there may be a need to modify and expand the data bases and the data reporting formats. Reviewing the quality of incoming reports, cleaning, and accurate entering of the data will require constant attention. As new data become available, they will have to be integrated into the system. For example, completely new demographic information may become available from the annual inventory reports which would make it possible to introduce a denominator defining the catchment population for those health units. New analytic and reporting modes will have to be created to meet specialized needs of the MOH and other users. Adjusting the system to provide useful feedback to the health units and regional health offices will be a major effort. Monthly and quarterly reports will have to be produced, as well as a periodic newsletter to send to the field. The annual statistics report format will have to be developed, the tables generated, and the report produced.

(5) Interpretation and use of the information system data

The system is designed to be used as a planning and management tool at the central level, the regional or supervisory level, and at the level of the individual health units. A great deal of assistance will be needed to help institutionalize the utilization of the system at all levels.

Both the Ministry of Health and the Ministry Delegate at the Presidency for Planning are concerned that, as more donor support is anticipated in the health sector, it has become more important to coordinate donor assistance, ensuring that priorities are established and respected. The analysis of information available from the new system, and the interpretation of that information will play an important role. It is essential, for at least the first year after the system begins to produce useful information, to strengthen the BSPE so the unit will develop the capacity to advise the Ministries on policy development and planning.

At the regional level, there will be a need to strengthen the ability of the prefectural medical officers and others who have regional supervisory responsibilities, to interpret and use the information system for planning and managing health services for which they are responsible. Once the system begins to operate, the BSPE may need to develop new reports or routes of transmission, in order to facilitate the work of these regional personnel.

Once the system is well established in a number of representative health units around the country, it would be extremely useful to carry out a study of the organization and management of these units to ascertain how the health information system could be used to manage these units more efficiently. Once the study is completed, it will be necessary to train trainers at regional level to train health unit managers.

(6) Complementary data gathering

There are two areas in which complementary data gathering would enhance the system significantly: clinic based studies to verify the diagnoses of the providers and to validate the established definitions of diagnoses; and community based nutrition and morbidity studies of the under five population in the catchment areas of functioning health units to obtain additional information on the magnitude of problems and special areas of need for child survival interventions.

(7) Training

Although all of the present BSPE staff will have been with the project for nearly a year or more at the end of 1987, several of them will not have had enough on the job or special training to carry on independently after that time. In particular, the new director will need more time, not only to learn all the skills necessary to monitor and support the health information system, but also to become proficient in interpreting the data and developing policy and planning guidelines for the MOH. Several members of the staff will need more training in computer analysis, especially in programming and data manipulation, and in maintenance of the equipment.

It is certainly hoped that the MOH will assign additional staff to the BSPE in the near future. Any new staff will need a fair amount of orientation before they will be completely comfortable with their roles.

(8) Resources

Additional resources will have to be made available to the BSPE to ensure sustainablility. In the first place, a full complement of staff must be assigned by the MOH. This includes, at a minimum, a deputy planner/economist and a senior statistician and two fully qualified secretaries.

The recurrent cost study that is planned within the next few months should provide information on basic operating costs of the system. In addition there will be the costs for transport and per diems for supervision and training, and some capital costs for maintenance of the computers.

5. RECOMMENDATIONS

5.1. Priority Actions Prior to December 31, 1987

(1) The project should adhere to the work plan established by the team which, although extremely ambitious, anticipates completing the initial implementation of the routine reporting system. This will require the technical assistance team, in collaboration with the BSPE, to continue the intense pace of activity at which they have been working to date. Successful compliance with the work plan implies that there will be no unexpected obstacles between now and the end of the project year.

(2) The MOH should assign at least two, and preferably three, professional staff to the BSPE as soon as possible, including a senior statistician, a deputy planner, and an economist. In addition, the MOH should recruit two senior secretaries for the BSPE.

(3) The recurrent cost study, planned by the project, should be carried out.

(4) The computer training being planned for staff of the BSPE is critical. In the event that the training is given in Chad, rather than in a third country, arrangements should be made for it to take place outside of the BSPE office. Otherwise there will be too many distractions which will reduce the effectiveness of the training.

(5) As the project gains more experience in training people for the introduction of the health information system, precise learning objectives should be established for each module. Gradually, the staff of the BSPE, and key people at regional level, should be trained to take over all the teaching sessions.

(6) Coordination with the Ministry of Social Affairs and the Military should be explored as soon as possible.

5.2. The Project Extension

It is imperative that the Health Planning Restoration Project receive additional support if the health information system is to be institutionalized. There are a number of areas in which continued technical support is essential to strengthen the capacity of participants at all levels to sustain the system after outside assistance ends. In addition, as long as the current financial situation continues, some material support will be necessary to maintain the activities.

5.2.1. Priorities for Institutionalization of the Health Information System.

(1) The system should be extended into all health units throughout the country. It is expected that less than half of MOH and non-governmental health units will be participating in the system by the end of 1987. Thus additional efforts will have to be made to incorporate the remaining units. If coordination with the Ministry of Social Affairs, and perhaps the Military, has not yet been fully realized, health units under their control will also have to be included.

(2) Additional training of BSPE staff will be required to ensure their ability to manage all aspects of the information system. This will include strengthening their capabilities to plan and carry out relevant training and retraining; supervise the reporting and transmission of information; collect, verify, enter and analyze the data; produce timely and useful reports; program and maintain the computers; interpret information from the system; use the information to plan and develop policy options.

(3) As more information begins to flow through the system, the data bases will need to be adjusted. Reporting formats will need to be modified and expanded to meet the needs of users at all levels.

(4) A major evaluation of the system will have to begin approximately one year after the system will have begun functioning. The evaluation will have to be carefully designed, carried out and analyzed. Based on the findings, modifications will have to be made, pre-tested and subsequently introduced.

In conjunction with the evaluation, several relatively small studies should be carried out, including a study to verify the accuracy of diagnoses among a sample of health providers and to validate the definitions of diagnoses that were initially established. This study would provide important information for modifying the definitions and planning in-service training of providers, and data that could be used to adjust preliminary morbidity reports.

(5) Strengthening of the prefectural medical officers is critical to institutionalizing the system. It is at this level that responsibility for supervising the operations of the health units lies. They are the conduit for reports from the field, and for feedback to the periphery, and should be responsible for regional training activities. Theoretically, they will be primary users of the information generated, and should provide constructive support to the officers in charge of individual units, assisting them to use the system to improve the efficiency and effectiveness of their operations. As these concepts will be completely new to most of the medical officers, a major effort will be required to reinforce their role as regional managers.

(6) Although it is not critical to institutionalizing the system, a functional analysis of health units would enhance the utility of the system. Study outputs would include a plan of action for improving the efficiency and effectiveness of clinic operations, and for using the health information system as a management tool.

(7) It is essential that the two vehicles donated by USAID for use by the BSPE remain with that unit for their exclusive use. In addition, financial support will be required for the maintenance and operating costs of these vehicles. Financial support will also be necessary for the basic operations of the health information system, for the evaluation, and for strengthening the prefectural level.

5.2.2. Technical Assistance

The present project will end at the end of 1987. One year is the minimum extension necessary to ensure a modicum of institutionalization. The HIID Chief of Party is scheduled to remain in country through

December 1987; the other two technical assistants are scheduled to leave in October. Thus the level of effort recommended is projected over a fifteen month period from the departure of the two technical assistants through December 1988.

(1) Senior health planner (12 person months)

Primary responsibilities: Chief of Party; senior advisor to the MOH and the Director of BSPE for institutionalization of the health information system, planning and carrying out the evaluation, the interpretation of data, and sector planning; major responsibility for on the job training of BSPE staff.

(2) Epidemiologist (6 person months)

Primary responsibilities: Senior advisor for data analysis, modification of the data analysis and reporting system, as appropriate, ensuring the usefulness of reports to the MOH and others, including USAID's needs to monitor child survival activities.

(3) Information management specialist (15 months: local hire or Peace Corps)

Primary responsibilities: Advise BSPE staff on data management, preparation of reports, and computer programming; train BSPE staff in computer skills and maintenance.

(4) Health management specialist (15 person months)

Primary responsibilities: Strengthen regional level support of the health information system, and health unit management.

5.2.3. Potential Sources of Support

(1) AID

USAID has indicated that there may be some monies remaining in the umbrella Relief and Rehabilitation Project that could be reprogrammed to support the Health Planning Restoration Project. However, it is clear that these funds are very limited and probably will not be sufficient. Therefore, other complementary sources of support for the BSPE should be explored.

It is recommended that USAID investigate the possibility of obtaining central funds to supplement mission financing. In particular, Child Survival funds might be sought, especially considering that the information system will be generating information on health problems and activities related to child survival. Possibly some money could be found in one of the centrally funded population/demography projects to finance the computer/statistics assistance, carrying on the work of the U.S. Bureau of the Census.

(2) Peace Corps

Tentative plans have been made for the Peace Corps to return to Chad. Possibly the Peace Corps could program two volunteers to work with the BSPE to fill the information and health management specialist positions.

(3) African Development Bank

The African Development Bank has approved support to the GOC for a health planning and management project. Two long term advisors, a health planner and a health administrator, will be recruited to advise the Ministry of Health. The ADB project advisors may be able to provide assistance to the BSPE with institutionalization of the health information system.

(4) World Bank

The World Bank is financing a project which includes a demographic advisor and a statistics advisor who will work with the statistics office in the Ministry Delegate at the Presidency for Planning. It is possible that these advisors might be able to provide periodic assistance to the BSPE, especially in programming and maintaining the computers. If such assistance is considered desirable, the Ministry of Health should make a formal written request to the Ministry Delegate at the Presidency for Planning. It is suggested that, if such an arrangement is to be considered, a fixed percentage of time of the technical assistants should be agreed upon. A simple ad hoc arrangement might be awkward.

(5) Fonds Europeen de Developpement (FED)

The FED is planning a project that, it is anticipated, will provide assistance to strengthen the prefectural medical officers in specified regions of the country. Such an activity could help to reinforce the health information system activities at regional level.

APPENDIX I: LIST OF PERSONS INTERVIEWED

Government of Chad: Ministry of Public Health
M. Mahamat Nour Mallaye, Minister
M. Pierre Tokinon, Secretary of State
Dr. Yankalbe Matchock Mahouri, Director General
Dr. Guelina Amane, Director, Directorate of Rural & Preventive Medicine
Dr. Amoule Waya Mouma, Director, Directorate of Urban & Hospital Medicine
M. Adjid Oumar, Director, Directorate of Professional Training & Health Education
M. Barou Djouater, Director, Directorate of Pharmacies & Medical Laboratories
M. Abakar Sou, Head, Division of Professional Training
Dr. Miskine N'Godro, Chief Medical Officer, Chari-Baguirmi
Dr. Garba Sanda, Director, Expanded Programme of Immunization
M. Lam Taokissam, Director, National School of Public Health and Social Services
Dr. Gerard Cordoliani, FAC Technical Advisor, Directorate of Rural and Preventive Medicine
Dr. Christophe Decam, FAC Technical Advisor, Sector 1, Directorate of Rural and Preventive Medicine

Government of Chad: Ministry Delegate at the Presidency for Planning
M. Soumaila Mahamat, Minister
M. Ranguebaye Rimteta, Chief, Division of Statistics and Demographic Studies

Ministry of Public Health: Office of Statistics, Planning and Studies (BSPE)
M. Ouadjon Ouarmaye, Director
M. Neldjibaye Tingata, Statistician, Director of data processing
M. Asndaye Namoudjingar, Statistician, Deputy director of data processing
M. Katymia Ezekiel, Health Inspector
M. Djingarti Mouana, Epidemiologist
M. Tedang Robert, Statistician

United States Embassay
Ambassador John Blane

USAID
Mr. John Woods, AID Representative
Mr. Cary Kassebaum, Program Officer
Ms. Dianne Blane, General Development Officer
Ms. Kathleen LeBlanc, Controller
Mr. Iqbal Chaudhry, Chief Engineer
Mr. Kevin Guild, COP, DMS; Administrative Officer

Harvard Institute for International Development: Health Planning Restoration Project
Dr. Al Henn, Project Coordinator
Dr. Theo Lippeveld, Chief of Party
Dr. Anne-Marie Foltz, Epidemiologist/Statistician
Ms. Sarah Combs, Training Coordinator

World Health Organization
Dr. Charles Randriamanana, WHO Representative
Mlle. Francoise Alzouma, Technical Advisor, Training
Dr. Traore, Technical Advisor, Primary Health Care
M. Ba, Technical Advisor, Training

UNICEF
Dr. Eric Laroche, Health Program Coordinator

Medecins San Frontieres
Dr. Eric Goemaere, Director

Cooperation Suisse
Dr. C. H. Jeanmaire, Director for Health

Field visit to Linea